

**TESTIMONY OF  
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BEFORE THE  
COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY  
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## **I. Introduction**

Good afternoon Chairman Harkin, Ranking Member Chambliss, and members of the Committee. My name is Richard Lindsey and I am President of Callcott Group LLC, a consulting firm specializing in risk management and portfolio allocation. I am also the chairman of the International Association of Financial Engineers. Previously, I have been a finance professor at Yale University, the Chief Economist and the Director of Market Regulation at the Securities and Exchange Commission, and, until December of 2006, the President of Bear Stearns Securities Corporation – the prime brokerage and clearing business of Bear Stearns. I am pleased to be here today to testify at the Committee’s hearing on the Role of Financial Derivatives in the Current Financial Crisis.

We are, without a doubt, in the midst of the most serious financial crisis since the late 1920s. Millions of people are defaulting on mortgages; the world’s financial markets have been shocked both by enormous losses, and by the fear that there are more losses to come; financial institutions that were once household names have been forced into bankruptcy or fire sales; and governments around the world are attempting to stabilize the markets with coordinated policies, interest rate cuts, and even direct cash infusions. In the middle of our collective shock at the magnitude and range of this calamity, everyone is looking for the culprit – what caused this crisis? Was it the greed of Wall Street? Incompetent regulators? Deregulation? Derivatives?

My testimony today will address certain fundamental facts associated with financial derivatives (focusing on credit default swaps) in an attempt to clarify and correct some of the misconceptions that have been widely reported in the popular press. I will then discuss the systemic risks inherent in the use of credit derivatives, the role of regulation in controlling those

risks, and what can and should be done to mitigate those risks. Finally, I suggest a way forward through the current crisis.

## **II. Financial Derivatives – Myth and Reality**

In general, financial derivatives take two forms: (i) exchange-traded derivatives, which are traded on recognized exchanges or boards of trade, and (ii) over-the-counter ("OTC") derivatives, which are privately negotiated, customized bilateral contracts, the obligations under which may only be transferred under certain agreed upon terms. The OTC derivatives market is usually substantially larger than the exchange-traded derivatives market.

Whether it is exchange-traded or over-the-counter, a derivative is always a bilateral agreement that shifts risk from one party to another. A credit derivative is an agreement explicitly designed to shift credit risk between two parties, and its value is determined by, or derived from, the credit performance of one or more corporations, sovereign entities, or securities. Credit derivatives were originally developed by financial institutions, primarily banks, as a means of hedging and diversifying credit risks in a manner similar to the manner used for hedging interest rate and currency risks. But the market for credit derivatives has also developed into a low cost method for investing in credit exposure (again, just like the market in interest rates and currencies). While credit derivatives are often pejoratively described in the media as a “bet”, it is important to realize that one could equally describe all investments as “bets”. When we buy the stock of a corporation, we are “betting” that the stock will be worth more in the future than what we paid. When we buy a bond, we are “betting” that the corporation will be solvent and repay its debts. Even when we buy US Treasuries, we are making a “bet” that the US Government will be able to repay its obligations (ideally without

inflating away their value). To be sure, each of these investments or “bets” has a different risk profile, but it doesn’t change the underlying fact that each investment always contains risk.

Credit default swaps (CDS) represent the vast majority of credit derivatives. A CDS is a contractual agreement to transfer the default risk of one or more entities or credits from one party to the other. The protection buyer pays a periodic fee to the protection seller during the term of the CDS. In return for this fee (usually called a spread), the protection seller compensates the protection buyer if the underlying credit defaults, declares bankruptcy, or experiences another agreed-upon credit event. The protection buyer is entitled to protection on a specified face value of the underlying credit’s debt, the “notional amount.” The underlying entity is not a party in any way to the contract, and it is not necessary for the buyer or seller to obtain the underlying credit’s consent to enter into a CDS.

The fact that the underlying credit is NOT a party to the agreement and, further, that neither the protection buyer nor the protection seller needs to own the debt of the entity, has also recently been subject to a great deal of media hyperbole. This fact is frequently and shrilly cited as evidence that credit derivatives are a “bet”. But exactly the same statement could be made about futures contracts or stock options – neither the purchaser or the seller of those contracts needs to hold a position in the underlying commodity or stock; nor do they need the permission of the company (in the case of a stock option) or the farmer (in the case of an agricultural commodity) to enter into the contract in the first place. This is an old argument that simply misses the point that derivative instruments allow for the separation, identification, and isolation of certain risks through the establishment of new markets with new instruments, and thereby enhance the efficiency of capital markets and provide for better risk sharing and capital allocation.

Two simple examples may help to make this clear. First, consider Bank A, which has merged with another bank. The management of Bank A may feel that the loan portfolio of the combined banks is overexposed to a given credit, and may want to reduce that credit risk. Buying protection through a credit default swap provides a means by which Bank A can reduce its exposure to that credit, without endangering the business relationship (since the underlying credit need never know about the swap). This would be an example of a hedge where the protection buyer has a previous exposure to the underlying entity. In this case, Bank A can reduce exposure to an entity and increase the diversification in its portfolio; thereby decreasing risk and improving efficiency.

Now consider Bank B which wants to diversify its credit exposure but does not have a relationship with the quality of credits it desires. Bank B can sell protection through a credit default swap as an alternative to making loans or buying bonds. This is economically equivalent to lending directly to the desired credits. In this case, Bank B is able to diversify its loan portfolio and improve the quality of its credits; thereby decreasing risk and improving value for its shareholders. Importantly, in the second example, Bank B does not have a previous exposure to the underlying entity, but is able to gain exposure through the credit default swap market. Neither one of these banks could have achieved its objective without the existence of a viable market for credit derivatives – in both cases credit default swaps decreased risk and increased the efficiency of the financial markets.

The next misperception appears to be associated with the size of the credit default swap market. By virtue of the fact that the market is one of bilateral contracts, it is difficult to determine its size except through surveys like those conducted by the British Bankers' Association (BBA) and the International Swaps Dealers' Association (ISDA). Even then, the

only size statistic is the notional value associated with credit default swaps, which at the end of June 2008 was reported by ISDA to be \$54.6 trillion. It is important to recognize, however that the notional value does not represent outstanding liabilities. The notional value represents the amount of money that protection sellers would owe protection buyers if every single underlying credit entity defaulted and the value of their debt went to zero. Given the primary credits upon which credit default swaps have been written, this would mean that the companies General Motors, Ford, ATT, Eastman Kodak, Time Warner, General Electric, Telecom Italia, France Telecom, and the countries of Brazil, Mexico, Turkey, France, Italy, and Japan all defaulted simultaneously and the value of their debt went to zero. That scenario is highly improbable.

In addition, buyers and sellers of credit protection are not unique. If a dealer sells \$100 million notional of credit default protection on ATT to one customer, and buys \$100 million notional of credit default protection from another customer, that represents a total of \$200 million notional, even though the dealer has no exposure to the underlying credit (it does have counterparty risk with the customers). In fact, according to the BBA, dealer positions represent more than 50% of the credit default swap market and, as can best be determined from public disclosures, have nearly equally balanced CDS exposures, consistent with the dealer business model. Finally, it is important to remember that credit default swaps, like all derivative contracts, are zero sum contracts – the loss of one party in the contract exactly equals the gain of the other party. In aggregate, therefore, the losses incurred by protection providers equal the gains realized by protection buyers, making the overall CDS market a “closed system”, where gross losses equal gross gains, and both, when added, net to zero.

This is in contrast to the cash bond market where credit losses result in permanent loss of value.

The actual number that we should focus on is the gross replacement value of all outstanding credit default swaps, which according to the BBA was a little over \$2 trillion at the end of 2007, or just under 3.5% of the notional amount for that period. That number represents the cost of replacing all the existing contracts in the market, just as the market price of an equity security represents the price at which it can be bought or sold in the open market. It is equal to the difference between the present value of fixed-rate premium payments to be made by protection buyers and the present value of the credit event-driven payments that the market expects will be made by protection sellers over the life of the swaps.

None of this is to say that the credit default swap market does not contain risk. And it is important to note that with a CDS, the risks assumed by the protection buyer and protection seller are not symmetrical. The protection buyer essentially takes a short position in the credit risk of the underlying entity, thereby eliminating any exposure to default (if it had any exposure to begin with). But in eliminating that exposure, the buyer takes on two forms of counterparty exposure: the first to the simultaneous default by the underlying credit entity and by the protection seller; and the second to replacement risk resulting from the default by only the protection seller. In addition, the protection buyer may have basis risk to the extent that the reference credit specified in the CDS does not precisely match the hedged asset. The protection seller, in contrast, takes a long position in the credit risk of the underlying entity combined with the counterparty risk associated with the buyer defaulting on its promised payments.

So in a credit default swap someone is always taking on the risk of default by the underlying credit (the protection seller), and both parties are taking on counterparty risk – the risk of doing business with each other. This counterparty risk, under the strain of the current crisis, has increased significantly beyond market expectations. Furthermore, counterparty risk

has increased simultaneously for all counterparties, an event that even if it had been modeled by risk managers would have been viewed as a very low probability. I shall return to the issue of counterparty risk in the next section.

In addition, there is a more subtle form of risk associated with the credit derivative market and, in fact, with any derivative market –that is the understanding – or lack thereof – of the product and its use. Ultimately, this risk exists because of the gross and widespread failure by senior management and boards of directors of publicly traded companies. It is the duty of directors and company management to oversee the operations and understand the risks that their institutions are taking. In other words, it is not sufficient for members of the board to simply ask, and to be told that a given risk is hedged (or that the risk to an underlying credit has been “insured”) and go no further. Each board member needs to have understood that in hedging the company took on a different counterparty risk. Did the board members ask about the quality of those counterparties? The overall exposure and risk concentration with each counterparty? Did they understand that they were writing protection on multiples of the underlying credit? Did they have adequate understanding and control over a very new derivative product with a remarkable growth rate?

### **III. Systemic Risk and Regulation**

In the previous section, I discussed the notional amount of credit default swaps outstanding. The large notional amount of contracts is not, in and of itself, a systemic issue, but the failure to adequately measure and manage the counterparty risks associated with that notional can carry significant systemic implications, as we have seen with the market’s aggregate exposure to AIG. The bankruptcy of a major CDS counterparty like AIG would have exposed



all of its counterparties to replacement risk and potential earnings shortfalls. There would have been a major disruption for dealers, since most of their CDS trading is done on a “matched-book” basis, and the loss of protection on one side would have increased their overall risk exposure. Given the size of the credit default swap market and the operational intensity of replacing all of those contracts, it is uncertain what would have happened.

There also could have been a “domino effect” – any appearance of significant problems with a major CDS counterparty may lead to a sudden increase in the number of novation (or transfer) requests as counterparties attempt to reduce their exposure to that firm. This can become a liquidity event for a firm as counterparties, with which the firm has a net receivable position, move their trades away and withdraw any cash collateral in the process. Similarly, when counterparties with which the firm has a net payable position assign their trades to new counterparties, the firm may be required to meet higher collateral requirements, including initial margin. Such a sudden “cash call”, combined with any other difficulties experienced by the firm, can have significant negative (self-fulfilling) consequences.

A mechanism which would alleviate much of the potential stress associated with the failure of a major counterparty would be centralized clearing for credit default swaps. This would place a clearing organization on each side of a credit default swap; thereby replacing the counterparty risk with risk of the clearing organization. This is essentially the same mechanism that is used for listed stock options and futures. In addition to reducing counterparty risk, other significant benefits would flow from the use of a centralized clearing mechanism: (1) a clearing organization would require capital in the form of clearing deposits for each of the participants, and that capital requirement would increase with the level of activity of each participant; (2) participants in the market, the public, and regulators would have a precise understanding of the

size and location of exposures; and (3) centralized clearing is likely to force the market to standardized terms and conditions, which would reduce operational complexity, improve liquidity, and make swap contracts more fungible.

Recognize that centralized clearing does not eliminate the risk associated with a counterparty default, it simply shifts that risk to a clearing organization that has the incentive to minimize such defaults by charging the appropriate clearing deposit. A clearing organization mutualizes this risk, and a clearing organization is only as strong as its risk management system and combined clearing members. Moreover, centralized clearing does not imply centralized trading. While there is nothing inherently wrong with centralized trading (such as on an exchange or a board of trade), too often the clearing organizations attached to those entities are used to prevent competition, rather than to promote competition in the marketplace.

The second mechanism for reducing the potential systemic risk associated with credit default swaps (or, in fact, any derivative product) is the establishment of appropriate capital requirements. Capital charges should not be solely based upon the level of market risk associated with the swap book (which, as we have seen, even when hedged can leave counterparty risk), but also upon counterparties. While multiple counterparties may diversify the risk to some extent, the capital charges should increase with aggregate exposure to those counterparties. In other words, even if the market risk cancels in a hedged transaction, the counterparty risk should (at a minimum) double unless it is a true cancellation of the contract.

The third mechanism for reducing the potential systemic risk is to increase the transparency associated with each reporting company's use of credit derivatives. The Financial Accounting Standards Board (FASB) has amended FASB Statement No. 133, *Accounting for Derivative Instruments and Hedging Activities*, to require enhanced disclosure by sellers of credit

derivatives, and FASB Interpretation No. 45, *Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness to Others*, to require an additional disclosure about the current status of the payment/performance risk of a guarantee. These amendments have the effect of requiring disclosure of such details as the nature and term of the credit derivative, the reason it was entered into, and the current status of its payment and performance risk. In addition, the FASB amendments require sellers to provide the amount of future payments they might be required to make, the fair value of the derivative(s), and whether there are provisions that would allow the seller to recover money or assets from third parties to pay for the insurance coverage it has written. The amendments are effective for reporting periods (annual or interim) ending after November 15, 2008 and should significantly increase the transparency of this market.

The final mechanism for reducing potential systemic risk that I will discuss today is, in my view, the most important. Corporate senior management and boards of directors must recognize their responsibility to understand and control the risks that their firms are assuming, through both business operations and financial market activity. It is not sufficient to receive assurances that everything is well controlled – each individual has a duty to probe, to challenge, and to ensure that he or she has confidence in and understands the answers. It is not the board's responsibility to know and understand every single trade, but each board member must understand the firm's business lines and the use (and misuse) of derivatives. If the board is not truly confident in its understanding of derivatives and the associated risk controls, then the firm should not be allowed to use or trade derivatives.

#### **IV. A Way Through the Crisis**

Although not strictly part of today's hearing, I would be remiss if I did not say a few general words about derivatives and their relation to the current crisis. First, in the strictest sense, derivatives do not create risk, they simply allow risks that already exist to be traded and redistributed. If corporations or individuals use derivatives to expose themselves to an inappropriate level of risk (i.e. risks that they cannot manage or absorb), then those corporations or individuals have created real risks in the economy. Those risks were not created by derivatives, they were created by individuals or corporations making bad choices when using derivatives. For a firm – or for the press – to claim otherwise is for the firm to refuse to take responsibility for its own actions, or for the press to refuse to place responsibility where it rightly belongs.

The current financial crisis was not caused by derivatives. It results from the bursting of an asset price bubble in the real estate market. The cause of that price bubble was a combination of (1) a low interest rate regime (the Federal Reserve's response to the bursting of the internet bubble) and (2) a specific, but misguided, government policy to make home ownership widely available even to those without traditionally "good" credit ratings. The losses associated with the bursting real estate bubble are real, and those costs must be borne by someone. The financial system can transfer those losses from party to party, but in the end, until the real losses are absorbed by the economy, we will have uncertainty, turmoil, and financial disruption.

Just about a year ago, I proposed to the House Subcommittee on Capital Markets a solution to mitigate the transfer of losses in the economy by having defaulting mortgagees become renters and having the mortgage pools as landlords owning the real estate. My proposal

came too early – before the crisis had reached its current extent. A colleague of mine, Dr. Stephen Figlewski, has recently proposed a similar solution that I think is superior to mine. Recognizing that the real estate losses in the economy are what is causing the current financial crisis, he proposes that instead of purchasing the derivative contracts (which have mortgages as the underlying), Treasury should simply take over ownership from defaulting mortgages and guarantee the original mortgage payments. This highly elegant solution immediately eliminates all of the uncertainty and should serve to immediately stabilize the financial markets. While the taxpayer still bears the burden associated with whatever the real losses are in the economy, it is likely that those losses will be much smaller guaranteeing mortgage payments than by purchasing the myriad contracts written predicated on those payments. Moreover, the government will own the underlying real estate, which clearly has a long term value.